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Conference Abstract

Taxonomy and Distribution in Big Data Use Cases from BISON and ITIS

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Abstract

The Integrated Taxonomic Information System (www.itis.gov) is a systematically curated, standardized, machine readable taxonomy with a standard global hierarchy and classification of all organisms. ITIS is included within thousands of other databases and websites worldwide. Biodiversity Information Serving Our Nation (bison.usgs.gov) is the premier resource for biological occurrence data in the United States and the primary application and hub of the US node of the Global Biodiversity Information Facility (GBIF). Extensive web services allow the direct connection of ITIS and BISON to automated workflows and analyses. Examples of this relevant to big data will be illustrated and discussed. These include a recent paper (dx.doi.org/10.1371/journal.pone.0162648) showing the substantial deficit incurred when not using ITIS synonyms in literature searches and the role of ITIS in taxonomically informed searches in BISON (bison.usgs.gov) and other large data repositories and analysis packages. Other emergent and novel applications of BISON will also be presented.

Keywords

big data, biodiversity informatics, synonymic search expansion, literature search, forensic biogeography

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